

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 7,704,345	)	Serial No. 10/597,878
	)	
Inventor(s): Michel Bosshardt	)	Filed: August 10, 2006
	)	
Issue Date: April 27, 2010	)	Attorney Docket No. 217035.00007

For: PROCESS ALLOWING CYLINDRICAL-WALLED CONTAINERS TO BE DECORATED AT A FAST RATE

**REQUEST FOR CERTIFICATE OF CORRECTION**

U.S. Patent and Trademark Office  
Customer Service Window  
Randolph Building, Mail Stop: Certificate of Correction Branch  
401 Dulany Street  
Alexandria, VA 22314

Sir:

Pursuant to 35 U.S.C. § 254 and 37 C.F.R. § 1.322, Applicant requests the issuance of a Certificate of Correction in the above-identified patent. A copy of PTO Form 1050 is appended. The complete Certificate of Correction involves one page.

The mistakes identified in the appended Form occurred through no fault of the Applicant, as clearly disclosed by the records of the application, which matured into this patent. Enclosed for your convenience is the Amendment filed October 28, 2009.

Issuance of the Certificate of Correction containing the corrections is respectfully requested. Since these changes are necessitated through no fault of the Applicant, no fee is believed to be associated with this request. Nonetheless, should the Patent and Trademark Office determine that a fee is required, please charge our Deposit Account No. 19-0733.

Respectfully submitted,

BANNER & WITCOFF, LTD.

Dated: August 27, 2010  
Banner & Witcoff, Ltd  
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UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO.: 7,704,345  
DATED: April 27, 2010  
INVENTOR(S): Michel Bosshardt

It is certified that errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 13, Claim 7, Line 54:  
Please delete "it reaches the marking area."

Column 16, Claim 18, Line 1:  
Please delete "and"

Column 16, Claim 18, Line 1:  
Please delete "unit"

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U.S. PAT. NO  
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PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**(Attorney Docket No: 017035.00007)**

In re application of:	)	
Michel Bosshardt	)	Confirmation No. 7387
	)	
Application No.: 10/597,878	)	Group Art Unit: 1791
	)	
Filing Date: August 10, 2006	)	Examiner: Sonya Mazumdar
	)	
For: PROCESS ALLOWING CYLINDRICAL-	)	
WALLED CONTAINERS TO BE DECORATED	)	
AT A FAST RATE	)	

**RESPONSE TO NONFINAL OFFICE ACTION DATED SEPTEMBER 1, 2009**

Commissioner for Patents  
MAIL STOP - AMENDMENT  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The paper is filed in response to the Nonfinal Office Action mailed September 1, 2009. The Office Action set a three month term for reply, requiring that a response be filed by December 1, 2009. It is believed that no fee is due in connection with this filing. However, if a fee is due, the Office is authorized to charge such fee, or credit any overpayment of fees, to Deposit Account No. 19-0733.

**Amendments to the Claims** are reflected in the Listing of Claims, which begins on page 2 of this paper.

**Remarks** begin on page 8 of this paper.

## **Listing of Claims:**

Claims 1-29. Canceled

30. (Currently Amended) A process for decorating the cylindrical wall of a plurality of containers comprising:

- a) mounting a plurality of moving mandrels on a loop circuit, each mandrel being mounted on a support capable of moving such that the axis of the mandrel remains parallel to a given direction D, and able to rotate around its axis while resisting a force exerted perpendicular to the axis;
- b) successively bringing each of the plurality of containers flush with one of the plurality of mandrels and fitting the container onto the mandrel;
- c) bringing the mandrel thus covered with the container into the vicinity of an impression roll driven in a continuous rotary motion around a fixed axis, wherein the impression roll is a marking roll provided with an etched surface;
- d) rotating the mandrel around its axis while it is being moved towards the impression roll,
- e) running a transfer film bearing strip into the gap between the impression roll and the mandrel covered with the container at a linear velocity equal to the tangential velocities of the roll and container;
- f) bringing the mandrel and the impression roll into contact with each other, the cylindrical wall of the container and the surface of the impression roll being driven at a substantially equal tangential velocity, the contact translating into a force exerted by the impression roll on the mandrel through the transfer ~~transferable~~ film bearing strip and the wall of the container;
- g) moving the transfer film bearing strip away from the surface of the container, with the result that the part of the transfer film remaining bonded to the container wall is detached from the transfer film bearing strip, thus bringing about the decoration; and
- h) moving the mandrel covered with the ~~and~~ container ~~unit~~ away from the impression roll to leave room for the next mandrel.

31. Canceled

32. (Currently Amended) The process according to claim ~~30~~ ~~34~~ wherein the force applied by the raised parts of the etched surface causes the compression of a part of the transfer film which thins out and adheres to the wall of the cylindrical container and, when the transfer film bearing strip is moved away from the surface of the container, the marked part of the transfer film which remains bonded to the container wall is detached from the transfer film bearing strip, thereby bringing about the decoration being implemented.

33. (Currently Amended) The process according to claim ~~30~~ ~~34~~ wherein the marking roll is hot and the transfer film is a thermal transfer film.

34. (Currently Amended) The process according to claim 33 wherein, when the transfer film bearing strip has left the marking area because of the rotation of the mandrel, the transfer film bearing strip is held against the cylindrical wall of the container long enough to allow the transfer film bearing strip and the marked transfer film to cool down to a temperature that makes the film easier to detach by cutting along the boundary between the marked area and the unmarked area.

35. (Previously Presented) The process according to claim 30 wherein the mandrels are mounted on a turntable, the axis of rotation of which is parallel to the axes of the mandrels.

36. (Previously Presented) The process according to claim 35 wherein the turntable operates stepwise, the mandrel finding itself at each stop flush with an area for handling or treating the container.

37. (Currently Amended) The process according to claim 30 wherein the mandrel is made to rotate such that it is able to reach the appropriate velocity before being brought into contact with the impression roll ~~it reaches the marking area~~.

38. (Currently Amended) The process according to claim 37 wherein the impression roll rotates

at a constant speed of rotation.

39. (Currently Amended) The process according to claim ~~30~~ 31 wherein the position of the axis of the marking roll is defined relative to the trajectory of the mandrels such that when they come into contact with each other, a force is applied to ~~a the contact~~ generatrix line of the container wall that is weak enough for the mandrel to be able to resist mechanically and strong enough for the transfer film to be marked by the raised parts of the etched surface of the roll.

40. (Currently Amended) The process according to claim 33 wherein the container comprises a cylindrical body having is a flexible tube, the cylindrical skirt of which has a thickness of between 250 and 600 microns, the marking temperature required by the hot stamping roll is between 80 and 250°C and the support force of the roll on the mandrel is between 2 N/mm and 40 N/mm.

41. (Currently Amended) The process according to claim 33 wherein the transfer film bearing strip is held, after marking, against the cylindrical wall of the container over an aperture angle  $\alpha$  over 20°.

42. (Currently Amended) The process according to claim 33 wherein the transfer film bearing strip is held, after marking, against the cylindrical wall of the container until the surface of the container reaches an average temperature below 80°C.

43. (Currently Amended) The process according to claim 33 wherein a drive device of the transfer film bearing strip is mounted downstream from the marking area such that the tension of the transfer film bearing strip is as low as possible as it leaves the marking area.

44. (Currently Amended) The process according to claim 33 wherein, during marking, a device driving the transfer film bearing strip is moved so that it enters the trajectory of the mandrels allowing the transfer film bearing strip to be applied against the container wall, the contact being maintained over an angular aperture over 30°.

45. (Currently Amended) The process according to claim 33 wherein a cold air flow is circulated over the transfer film bearing strip as it leaves the marking area.

46. (Currently Amended) The process according to claim ~~30~~ ~~31~~ wherein, after fitting the container onto the mandrel, and beginning rotation of the mandrel, an optical determination is made of a pre-marked index on the container using an optical tracking device, and the rotation of the mandrel is calculated such that the cylindrical wall of the container comes into contact with the marking roll surface by presenting itself according to a preset angular position, with a tangential velocity substantially equal to the tangential velocity of the etched surface of the marking roll.

47. (Currently Amended) The process according to claim 46, wherein the optical tracking device allowing the optical determination of a pre-marked index of the decoration is complemented by a second optical device connected to a corrective information system, which through the use of image analysis software, allows the angular and axial position of the mandrel to be corrected.

48-51. (Canceled)

52. (Currently Amended) A process for decorating the cylindrical walls of a plurality of containers comprising:

- a) mounting a plurality of moving mandrels on a loop circuit, each mandrel having a diameter slightly less than the diameter of the cylindrical wall of the container and being mounted on a support capable of moving such that the axis of the mandrel remains parallel to a given direction D, the mandrel being mounted onto its support in such a way that it is able to rotate around its axis while resisting a force exerted perpendicular to the axis;
- b) successively bringing each of the plurality of containers flush with one of the plurality of mandrels and fitting the container onto the mandrel;
- c) printing the cylindrical wall of each container in accordance with the required decoration with an ink or varnish promoting the adhesion of a transfer film;

- d) bringing the mandrel thus covered with the container into the vicinity of an impression roll, the roll being driven in a continuous rotary motion around a fixed axis parallel to the direction D;
- e) rotating the mandrel while it is being moved towards the impression roll at a speed correlated with that of the impression roll such that when the mandrel comes to be flush with the impression roll, the tangential velocity of the container wall in rotation is substantially equal to the tangential velocity of the surface of the impression roll;
- f) running a transfer film bearing strip into the gap between the impression roll and the mandrel, such that when it arrives in the gap, the transfer film bearing strip is moving at a linear velocity substantially equal to the circumferential velocities of the impression roll and the mandrel;
- g) bringing the mandrel and the impression roll into contact with each other, the contact translating into a force exerted by the impression roll on the mandrel through the transfer film bearing strip and the cylindrical wall of the container, the force causing the compression of the transfer film, translating into an adhesion of a part of the transfer film to the printed part of the cylindrical container wall;
- h) moving the transfer film bearing strip away from the surface of the container, with the result that the part of the transfer film remaining bonded to the container wall is detached from the transfer film bearing strip, thus bringing about the decoration, wherein the cylindrical wall of each container is printed in accordance with the required decoration with an ink or varnish promoting the rejection of the transfer film and that, when the mandrel and the impression roll are brought into contact with each other, the contact translates into a force exerted by the impression roll on the mandrel through the transfer film bearing strip and the cylindrical wall of the container, the force causing the compression of the transfer film, translating into an adhesion of a part of the transfer film to the unprinted part of the cylindrical wall; and
- i) moving the mandrel covered with the ~~and~~ container ~~unit~~ away from the roll in order to leave room for the next mandrel.

53. (Canceled)



54. (Currently Amended) The process according to claim 52 ~~53~~ wherein the transfer film has adhesive properties.

55. (Currently Amended) The process according to claim 54 wherein the impression roll is hot with the result that when the impression roll leans against the container wall sleeve through the transfer film, the latter acquires the adhesive properties.

56. (Previously Presented) The process according to claim 30 wherein the impression roll is driven by a motor.

57. (Previously Presented) The process according to claim 56 wherein the motor is an electric motor.

58. (Previously Presented) The process according to claim 30 wherein the mandrel has a diameter slightly less than the diameter of the cylindrical wall of the container.

59. (Canceled)

60. (Currently Amended) The process according to claim 33 wherein the transfer film bearing strip is held, after marking, against the cylindrical wall of the container over an aperture angle  $\alpha$  over  $30^\circ$ .

61. (Currently Amended) The process according to claim 33 wherein the transfer film bearing strip is held, after marking, against the cylindrical wall of the container until the surface of the container reaches an average temperature below  $60^\circ\text{C}$ .

62. (Previously Presented) The process according to claim 47, wherein the second optical device is a video camera.

63-65. (Canceled)

### **REMARKS**

The Nonfinal Office Action of September 1, 2009 has been carefully reviewed and this paper is responsive thereto. Claims 30-65 are pending in this application. Claims 30, 32-34, 37-47, 52, 53-55, 60 and 61 have been amended and claims 31, 48-51, 53, 59 and 63-65 have been canceled. No new matter has been added to the application.

### **Allowable Subject Matter**

The Applicants would like to express appreciation at the indication that claims 31-34, 39-47, 53-55 and 60-62 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph and to include all of the limitations of the base claim and any intervening claims. By this response, the features of claim 31 have been included in independent claim 30 and the features of claim 53 have been included in independent claim 52, and claims 31 and 53 have been canceled. Consequently, amended independent claims 30 and 52 are allowable. Claims 31-47, 56-58 and 60-62 depend from claim 30, and claims 54-55 depend from claim 52 and are allowable for at least the same reasons as amended claims 30 and 52, respectively, and for the additional features recited therein.

### **Election/Restriction**

In the Office Action, claims 30-65 were deemed subject to a restriction and/or election requirement and made final. More specifically, an election was required between the following:

Group I: Claims 30-47 and 52-62, drawn to a method of decoration the walls of cylindrical containers by a transfer film.

Group II: Claims 48-51, 59 and 63-65, drawn to a device of decorating the walls of cylindrical containers.

By this response, the Applicants, without prejudice or admission, cancel Group II, claims 48-51, 59 and 63-65.

### **Claim Objections**

Claims 30 and 53 were objected to for informalities. Claim 30 was objected to for use of the term “transferable” in line 19 and claim 53 was objected to for the phrase “the cylindrical container wall.” As required by the Office Action, claim 30 has been amended to replace “transferable” with “transfer”. As noted above, the features of claim 53 have been included in claim 52 and to delete “container”. Accordingly, the Applicants respectfully request withdrawal of the claim objections.

### **Claim Rejections – 35 U.S.C. § 112**

Claims 30-65 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Office Action states the following on page 3: “Claims 30 and 52 disclose “a transfer film bearing strip”; however the dependent claims refer to “the transfer film” and “the bearing strip”. One phrase should be chosen to maintain consistency throughout the claims to properly understand the claimed inventions.”

The Applicants respectfully submit that although “the bearing strip” may be referred to as “the transfer film bearing strip”, “the transfer film” is a separate entity and to refer to it as the “transfer film bearing strip” would be inaccurate. The reason for this is that the transfer film bearing strip is a two-part component: a bearing strip and a transfer film disposed on the bearing strip. Paragraph [20] of the application as originally filed discloses that when the transfer film bearing strip is moved away from the surface of the container, “the part of the transfer film remaining bonded to the container wall is detached from the bearing strip, thus bringing about the decoration.” Accordingly, “the transfer film bearing strip” and “the transfer film” are in fact different components and require distinction to properly understand the claimed inventions.

By this response, each occurrence of the phrase “the bearing strip” in claims 30, 32, 34, 41-45, 52, 60-61 and 64 has been amended to instead recite “the transfer film bearing strip”, for consistency, rendering the rejection moot.

Claim 30 was rejected for having insufficient antecedent basis for the limitation “the container unit” in line 24. Claim 30 has been amended to delete the term “unit” and instead recite, in part, “the mandrel covered with the container”. This phrase has antecedent basis in line 14 of claim 30, rendering the rejection moot.

Claim 37 was rejected for having insufficient antecedent basis for the limitation “the marking area” in line 2. Claim 37 has been amended to delete the phrase “it reaches the marking area” and replace it with the phrase “being brought into contact with the impression roll”. This feature is supported at least by claim 30, line 16, which states “bringing the mandrel and the impression roll into contact with each other”, rendering the rejection moot.

Claim 39 was rejected for having insufficient antecedent basis for the limitation “the contact generatrix line” in line 3. Claim 39 has been amended to delete the phrase “the contact” and instead recite “a generatrix line of the container wall”. This amendment is supported at least by paragraph [0036] of the specification as originally filed, which discloses “contact is able to be established gradually on a generatrix line of the container wall”, rendering the rejection moot.

Claim 40 was rejected for having insufficient antecedent basis for the limitation “the cylindrical body” in line 1. Claim 40 has been amended to instead recite “the container comprises a cylindrical body being a flexible tube”. This amendment is supported at least by paragraphs [0027] and [0049] of the specification as originally filed. Paragraph [0027] states that “[t]he containers are brought in succession flush with a mandrel, typically using spikes mounted on a transfer line, then fitted onto the mandrels over a length appropriate to the decoration to be printed. For example, when flexible tubes are involved, the fitting is carried out preferably until the inside of the head comes to a stop against the head of the mandrel, which gives an axial indexing of the decoration on the tube skirt. Paragraph [0049] discloses “the decoration of cylindrical bodies, typically the cylindrical skirts of flexible tubes”. Accordingly, the container may comprise a cylindrical body being a flexible tube, rendering the rejection moot.

Claim 47 was rejected for having insufficient antecedent basis for the limitation “the device” in line 1. In addition, claims 30, 31, 46 and 47 are alleged to not disclose a “first optical device” complemented with the “second optical device”. Claim 46 has been amended to recite, in part, “an optical determination is made of a pre-marked index on the container using an optical tracking device”. Further, claim 47 has been amended to now recite, in part, “the optical

tracking device”. These amendments are supported at least by paragraph [0046] of the specification as originally filed. Paragraph [0046] discloses “the optical tracking device mentioned above is advantageously complemented by a second optical device”, thus rendering the rejection moot.

Claim 52 was rejected for having insufficient antecedent basis for the limitation “the container unit” in line 32. Claim 52 has been amended to delete the term “unit” and instead recite, in part, “the mandrel covered with the container”. This phrase has antecedent basis in line 13 of claim 52, rendering the rejection moot.

Claim 55 was rejected for having insufficient antecedent basis for the limitation “the sleeve” in line 2. Claim 55 has been amended to delete the term “sleeve” and replace it with “container wall”. This amendment is supported at least by paragraph [0080] of the specification as originally filed, which discloses that “the contact translates into a force exerted by the impression roll on the mandrel through the transfer film bearing strip and the cylindrical container wall.” Consequently, the rejection is rendered moot and the 35 U.S.C. § 112, second paragraph rejections are respectfully requested to be withdrawn.

#### **Claim Rejections – 35 U.S.C. § 102**

Claims 30, 35, 36, 37, 38 and 56 were rejected as being unpatentable over U.S. Patent No. 6,531,018 to Fiwek (“Fiwek”). Claims 35, 36, 37, 38 and 56 depend from independent claim 30. As noted above, claim 30 has been amended to include the features of claim 31, which were indicated to be allowable subject matter. Consequently, amended claim 30 is allowable over Fiwek. Claims 31-47, 56-58 and 60-62 depend from claim 30 and are patentable for at least the same reasons as amended claim 30 and for the additional features recited therein.

#### **Claim Rejections – 35 U.S.C. § 103**

Claims 52 and 56 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fiwek in view of U.S. Patent No. 4,175,993 to Robertson et al. (“Robertson”) and U.S. Patent No. 5,464,495 to Eder (“Eder”). Claim 56 depends from claim 30. As discussed above, independent claims 30 and 52 have been amended to include the features of 31 and 53,

respectively, which were indicated to be allowable subject matter. Accordingly, amended claims 30 and 52 are patentable over Fiwek in view of Robertson and Eder. Claim 56 is patentable for at least the same reasons as amended claim 30 and for the additional features recited therein.

Claim 57 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Fiwek in view of Robertson and Eder as applied to claim 56 above, and U.S. Patent No. 6,098,689 to Fiwek ("Fiwek '689"). Claim 57 ultimately depends from claim 30. As noted above, claim 30 has been amended to include the features of claim 31, which were indicated to be allowable subject matter. Consequently, amended claim 30 is allowable over in view of Robertson, Eder and Fiwek '689. Claim 57 is patentable for at least the same reasons as amended claim 30 and for the additional features recited therein.

Claim 58 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Fiwek in as applied to claim 30 above, and further in view of Eder. Claim 58 depends from claim 30. As noted above, claim 30 has been amended to include the features of claim 31, which were indicated to be allowable subject matter. Consequently, amended claim 30 is allowable over Fiwek in view of Eder. Claim 58 patentable for at least the same reasons as amended claim 30 and for the additional features recited therein.

### **CONCLUSION**

The Applicant respectfully requests consideration of the application and allowance of all pending claims. Please feel free to contact the undersigned should any questions arise with respect to this case that may be addressed by telephone.

Respectfully submitted,  
**BANNER & WITCOFF, LTD.**

Dated: October 28, 2009

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